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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/035,657

10/26/2001

Earl D. Cox

08827.0007

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30827 7590 01/26/2007
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EXAMINER

BASIT, ABDUL

ART UNIT

PAPER NUMBER

3694

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/035,657

Applicant(s)

COX ET AL.

Examiner

Abdul Basit

Art Unit

3694

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-9, 11-13, 16-20, 23, 25-27, 30-32, 35, and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Natarajan (US Pat. No. 6,505,244 B1).

Regarding claim 1:

- Natarajan teaches a dispatcher for routing performance status information relevant to the business infrastructure. (*columns 2 and 3 generally*).
- Natarajan further teaches a local service management system for ensuring the service quality of different local infrastructure by generating and routing performance status information to the dispatcher. (*columns 2 and 3 generally*).

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- Natarajan further teaches an e-service management system that provides quality by the performance status information routed through the dispatcher to a global data repository. *(columns 2 and 3 generally)*.

Regarding claim 2:

Natarajan teaches a global data repository that includes a database implemented on a computer accessible medium. *(columns 11 and 12 generally)*.

Regarding claim 3:

Natarajan teaches a computer accessible medium that includes a hard disk. *(columns 11 and 12 generally)*.

Regarding claim 4:

Natarajan teaches a local infrastructure that includes at least one of services, components, and resources. *(columns 11 and 12 generally)*.

Regarding claim 5:

Natarajan further teaches a system that includes:

- A global ecology controller for estimating overall performance. *(columns 7 and 8 generally)*.
- A global e-service manager for describing and reporting said performance status information. *(columns 7 and 8 generally)*.
- A global e-service manager for describing and reporting said performance status information. *(columns 7 and 8 generally)*.

Regarding claim 7:

Natarajan further teaches:

- A design studio for designing new functionality of e-service management. (*see abstract*).
- A notification mechanism for notifying relevant parties about infrastructure performance. (*see abstract*).
- An export for providing external application programming interfaces. (*see abstract*).

Regarding claim 8:

Natarajan further teaches a discovery mechanism for identifying running applications on remote computer systems and an editor for manual updating and designing a behavior expert. (*see abstract*).

Regarding claim 9:

Natarajan further teaches a local service management that includes:

- A local service manager for ensuring the service quality of a local infrastructure. (*see abstract*).
- A data provider for providing observation data acquired from different components of the local infrastructure. (*see abstract*).
- A behavior expert for detecting abnormal events for different components of the local infrastructure based on observation data. (*see abstract*).
- A local ecology detector for detecting abnormal ecological event of the local infrastructure, detected by a behavior expert. (*see abstract*).

Regarding claim 11:

Natarajan teaches a data provider that includes at least one of services, components, resources and behavior experts. (*see abstract*).

Regarding claim 12:

Natarajan further teaches a system that has components that include a web server, database server, an application server, an iNet service and a load balancer. (*columns 2 and 3 generally*).

Regarding claim 13:

Natarajan further teaches a system where resources include an operating system, an application, a system call driver, an external transaction, and a network. (*columns 2 and 3 generally*).

Regarding claim 16:

- Natarajan teaches a method for generating status information related to different local infrastructure by at least one service management system that ensures service quality of different local infrastructure based on the business process model and the knowledge about the local infrastructure. (*columns 2 and 3 generally*).
- Natarajan teaches routing performance status information to a dispatcher. (*columns 2 and 3 generally*).
- Natarajan teaches sending performance status information by the dispatcher to a global repository. (*columns 2 and 3 generally*).

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- Natarajan teaches a global e-service management system that ensures service quality of e-service based on performance status and the business process model. *(columns 2 and 3 generally)*.

Regarding claim 17:

Natarajan further teaches a global data repository that includes a database implemented on a computer accessible medium. *(columns 2 and 3 generally)*.

Regarding claim 18:

Natarajan further teaches a computer accessible medium to include a hard disk. *(columns 2 and 3 generally)*.

Regarding claim 19:

Natarajan further teaches a local infrastructure to include services, components, and resources. *(columns 2 and 3 generally)*.

Regarding claim 20:

Natarajan further teaches a local service management that includes:

- Accessing observation data by a behavior expert from a general data server. *(columns 2 and 3 generally)*.
- Detecting abnormal events by a behavior expert that ensures the quality of a different logical part of a local infrastructure, using observation data, the business process model, and the knowledge about the logical part. *(columns 2 and 3 generally)*.

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- Estimating the performance of said local infrastructure by a local ecology detector by detecting abnormal ecological events based on abnormal events and the business process model to generate the performance status information.
(columns 2 and 3 generally).

Regarding claim 23:

Natarajan further teaches a method where a data provider includes a service, a component, a resource, and a behavior expert. (columns 2 and 3 generally).

Regarding claim 25:

Natarajan teaches a method, where managing includes:

- Detecting overall performance of business infrastructure by a global ecology controller based on performance status information routed through the dispatcher and stored in the global data repository. (columns 2 and 3 generally).
- Reporting the performance status information by a global e-service manager.
(columns 2 and 3 generally).

Regarding claim 26:

Natarajan teaches a method that includes has a graphical representation of the organizing performance status information, and a display device for the graphical representation. (columns 2 and 3 generally).

Regarding claim 27:

Natarajan teaches a method that further includes:

- Implementing new functionality of the e-service management. (columns 2 and 3 generally).

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- Notifying the performance status information. (*columns 2 and 3 generally*).
- Providing external application programming interfaces. (*columns 2 and 3 generally*).

Regarding claim 30:

Natarajan teaches a computer readable medium, encoded with a program that includes:

- Generating performance status information related to different local infrastructure by one local service management that provides quality control of different local infrastructure based on the business process model and the knowledge about the local infrastructure. (*columns 2 and 3 generally*).
- Routing the performance status information to a dispatcher. (*columns 2 and 3 generally*).
- Sending performance information via the dispatcher to a global data repository. (*columns 2 and 3 generally*).
- Managing the business infrastructure by a global e-service management that provides service quality based on the performance status information and the business process model. (*columns 2 and 3 generally*).

Regarding claim 31:

Natarajan further teaches a computer readable medium that includes at least one of services, components and resources. (*column 2, lines 40-60*).

Regarding claim 32:

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Natarajan teaches the computer readable medium to include:

- Accessing observation data by at least one behavior expert from a general data server. *(columns 2 and 3 generally).*
- Detecting abnormal events by least one behavior expert that ensures the quality of a different logical part of the local infrastructure based on observation data, the business process model for the e-service, and the knowledge about the logical part. *(columns 2 and 3 generally).*
- Estimating the performance of the local infrastructure by a local ecology detector, by detecting abnormal ecological events based on the abnormal events and the business process models to generate the performance status information.
(columns 2 and 3 generally).

Regarding claim 35:

Natarajan further teaches a computer readable medium, where managing includes:

- Detecting the overall performance of the business infrastructure by a global ecology controller based on the performance status information routed through the dispatcher and stored in the global data repository. *(column 2 and 3 generally).*
- Reporting the performance status information by a global e-service manager.
(column 2 and 3 generally).

Regarding claim 37:

Natarajan further teaches a computer readable medium where program includes:

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- Implementing new functionality of the e-service management. (*column 2 and 3 generally*).
- Notifying the performance status information. (*column 2 and 3 generally*).
- Providing external application programming interfaces. (*columns 2 and 3 generally*).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14-15, 28-29, 34, 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan (US Pat. No. 6,505,244) in view of Uchida et al (US Pat. No. 6,127,947).

Regarding claim 14:

Uchida also teaches an adapter for tuning a behavior expert according to the feedback from normal service operations performed on business infrastructure. (*see abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Uchida. Motivation to modify exists because

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tuning a "behavior expert" allows for more efficient operation of the business infrastructure.

Regarding claim 15:

Uchida teaches an adapter that includes:

- Storing at least one objective function describing desired service behavior of local infrastructure. (*see abstract*).
- A sensor connected to at least one behavior expert associated with local infrastructure to record the states of a behavior expert. (*see abstract*).
- An evaluator to evaluate the discrepancy between one objective functions and states recorded by at least one sensor. (*see abstract*).
- An adaptive tuner for updating states based on said discrepancy. (*see abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarjan with Uchida. Motivation to modify exists because the use of a sensor allows for better recording of the state of a system.

Regarding claim 28:

Uchida teaches the implementation of new functionality to include:

- A discovery mechanism for identifying applications running on remote computer systems. (*see abstract*).
- Updating the rules of a behavior expert. (*see abstract*).
- Designing a new behavior expert. (*see abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Uchida. Motivation to modify exists because

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updating a "behavior expert" allows for better functionality. Also the ability to run applications on remote computer systems provides for greater control over more systems.

Regarding claim 29:

Uchida teaches a behavior expert to include:

- Monitoring a part of the business infrastructure. (*see abstract*).
- Learning the impact of the behavior of one part of the e-service. (*see abstract*).
- Managing one part based on the knowledge of one part and the knowledge learned. (*see abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Uchida. Motivation to modify exists because the ability to learn the impact of one part of a system allows for better monitoring of the whole system in the future.

Regarding claim 34:

Natarajan teaches adapting an exception table describing the undesired service behavior of the local infrastructure based on the operational information. (*column 2, lines 8-22*). However, Uchida teaches the computer readable medium, where the program includes:

- Acquiring operational information of the local infrastructure via a sensor. (*see abstract*).
- Retrieving one objective function describing desired services behavior of the local infrastructure. (*see abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Uchida. Motivation to modify exists because the use of a sensor allows for more accurate acquisition of information.

Regarding claim 38:

Uchida further teaches a computer readable medium where implementing new functionality includes:

- A mechanism for identifying applications running on remote computer systems.
(see abstract).
- Updating the rules of a behavior expert. (see abstract).
- Designing a new behavior expert. (see abstract).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Uchida. Motivation to modify exists because the ability to update and change the behavior expert allows for better feedback on the system for future analysis.

Regarding claim 39:

Uchida further teaches a computer readable medium, where the behavior expert includes:

- Monitoring a part of the business infrastructure. (see abstract).
- Learning the impact of the behavior of one part of the e-service. (see abstract).
- Managing one part based on the knowledge about one part and the knowledge learned through the learning. (see abstract).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Uchida. Motivation to modify exists because the ability of one part of the system to learn from another part of the system provides for better detection of abnormalities in the system.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan (US Pat. No. 6,505,244) in view of Uchida et al (US Pat. No. 6,127,947) and in further view of Bunn (US Pat. No. 6,240,365 B1).

Uchida teaches a local service manager that includes a general data server for organizing observation data from at least one data provider into generic data objects. (see *abstract*).

However, Bunn teaches a blackboard server for hosting abnormal events that are detected and are accessed by at least one behavior expert for asynchronous communication with a behavior expert. (see *abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Uchida and Bunn. Motivation to combine exists because a "blackboard server" allows for data on abnormal events to be accessed by more than one "behavior expert." Also, the ability to have generic data objects allows for segmentation of data which provides better analysis.

4. Claims 6,21-22, 24, 33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Natarajan (US Pat. No. 6,505,244) in view of Bunn (US Pat. No. 6,240,365).

Regarding claim 6 and 36:

Bunn further teaches a global e-service manager that includes:

- A console for displaying said performance status information (*see abstract*).
- A report mechanism for organizing performance status information into a graphical representation. (*see abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Bunn. Motivation to combine exists because graphical representation provides a human user to understand the results better.

Regarding claim 21:

Bunn teaches a central controller that suggests receiving observation data from a data provider and posting abnormal events by a behavior expert on a blackboard server.

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Bunn. Motivation to combine exists because a "blackboard server" allows for data on abnormal events to be accessed by more than one "behavior expert."

Regarding claim 22:

Natarajan teaches receiving one objective function describing the desired service behavior of the local infrastructure, analyzing the discrepancy between said states and one objective function, and updating the state of a behavior expert based on the discrepancy. (*column 2 and 3 generally*). However, Natarajan does not teach acquiring the state of a behavior expert via a sensor. Bunn does. (*column 3 and 4 generally*).

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It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Bunn. Motivation to modify exists because use of fuzzy logic, or statistics allows for better forecasting of abnormal events.

Regarding claim 24:

Bunn teaches a method according to claim 20 that uses statistics, frequency, or fuzzy logic method to determine abnormal events. (*see abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Bunn. Motivation to modify exists because use of

Regarding claim 33:

Natarajan further teaches a computer-readable medium, where the program include the ability to receive observation data by the general data server from at least one data provider. (*columns 3 and 4 generally*). However, Bunn, not Natarajan teaches the posting the abnormal events by one behavior expert on a blackboard server. (*see abstract*).

It would have been obvious at the time of the invention to a person of ordinary skill in the art to modify Natarajan with Bunn. Motivation to modify exists because fuzzy logic, or statistics allows for better forecasting of abnormal events.

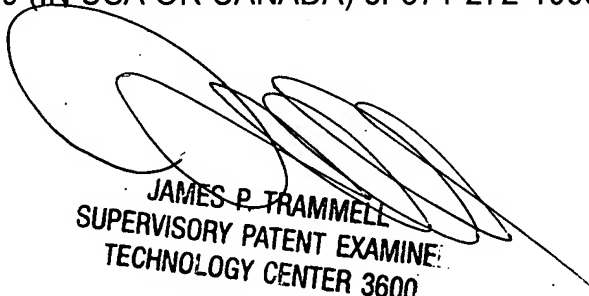
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdul Basit whose telephone number is 571 272-7246. The examiner can normally be reached on Monday - Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on 571 272 6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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